**Requirement Specification for online notice Board**

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Roll:08

**Abstract**

The notice board has always been the place where staff/students gathers to get their latest release of corporate news. Notice brings the notice board to a virtual location where staff/students can not only read notices, but immediately react and respond to them - from their own desks! With this electronic notice and announcement system, notification may be sent out notifying staff that a new notice has been posted, where staff may know if it concerns him directly.

**1. Introduction**

The notice board has always been the place where staff/students gathers to get their latest release of

corporate news. eNotice brings the notice board to a virtual location where staff/students can not only

read notices, but immediately react and respond to them - from their own desks! With this electronic

notice and announcement system, notification alerts may be sent out notifying staff and students that a

new notice has been posted, where staff may know if it concerns him directly. In this way, e-Notice also

serves as a mailing list for all employees in the directory. This eliminates the need to keep a separate

mailing list which is hard to maintain due to the rapid movement of staff.

These are the features that an eNotice App should have:

\_ An electronic dashboard board for disseminating information out to staff and students.

\_ Notices can be posted, with response obtained instantly.

\_ Staff or student can be notified of new postings via notification alert.

\_ Notice administrator may push important notices in to selected staff’s email.

\_ Notice administrator may create any notice category.

The interface of this application is straightforward and takes you roughly a minute to get started. Adding

notes to board is easy, just click on the post notice button and enter the text. Users can view the post on

the spot by having a notification alert in android phone. Here registration is must for all the users having

this application in order they want to have notification and staying stunned.

**2. Objective**

The proposed system’s objectives are to overcome all the limitations and drawbacks of the existing system.

The online eNotice application is user-friendly android application. The main objective of the

application is its simplicity of design and ease of implementation that shows and helps to collect most of

the information about events going on in college premises. The interface will be very user-friendly.

The main objectives of the proposed system can be enumerated as follows:

\_ Faster dissemination of notices regarding education, technical events, cultural events.

\_ Any lost/found going out in college.

\_ Easy way to broadcast your message.

\_ Helps you to be updated with what’s going on in College.

\_ Good way to advertise about Tuitions/ Coaching and Courses.

\_ User can also follow a group notice board.

**3.Identification of Need**

1. As I discussed earlier that manual maintenance of a notices is a tedious job. So to enhance the ease of working, we go for this package.

2. Giving the facility to convey messages to all students anytime and anywhere.

3. Making students updated about all the events and activities going on in the college.

4. The student will not require to stand in the crowd to see the notice. There will be no issue of fighting in order to see the notice first. Everyone is first to see that notice inside their own mobile phone anywhere and anytime.

5. The least but most important it saves time.

6. Utilizing less man power. As there are many persons involved in circulating the message. With this application, only one person is required to post the notice. Rest of the man power is saved in the entire process.

**4.Existing System**

Currently our college has manual system of putting notices on notice board. Its outdated now. As nobody has a time to stand in rush in order to read the notices on noticeboard.

Limitations of Existing System:

**1. Order of Data:**

Notice can get out of order in traditional notice board system. If someone accidentally

puts some data in the wrong place, it can lead to lost data. Automated notice management systems allow users to quickly check whether information already exists somewhere in the system, which helps avoid problems like redundant data.

**2. Complexity:**

Automated system is less complex than manual system of handling notices, which can make it easier for untrained people to access and manipulate data. Anyone having the basic knowledge of mobiles can work on the automated system.

**3. Inconsistency of data:** There will be an unavailability for future use, since notice might get misplaced during manual notices management. So notice won’t be preserved properly for future use.

**4. Damage**: Manual notices stack are vulnerable to damage, destruction and theft in ways that digital databases are not. A company may back up its digital data both on site and at offsite locations, ensuring its security if the office building suffered a fire or similar disaster. A manual database, however, may only exist in one place without any copies. As a result, a manual database would be very vulnerable to a fire or other natural disaster. In addition, while access time in a manual database system, information must be found by hand rather than electronically. While a digital database will typically allow users to search the entire database for specific information in seconds,

someone looking for information in a manual system may have to spend hours searching for a particular piece of data.

**5. Editing and Communication:** Manual notices do not allow users to easily edit data or information. Manual notices often cannot be edited directly, forcing users to make new copies. To circulate notice on paper, users must require peons and other staff. e-Notice app allow users to edit information fields directly, and because data is stored digitally, it is already in a form that can be easily transmitted.

**5.Proposed System**

Proposed System will be able to do the following:

**1. To eliminate wastage of time and energy:**

Notice app will be able to save lot of paper and time. It directs both teacher and pupils energy and attention to one thing at a time by placing proper persons at their proper places at the proper time. Everything will be instanteneous.

**2. To avoid duplication and overlapping:**

This application will help to remove the duplicacy of notices. Only one person, who is admin can post the notice. No one else would be able to do so. Soo student and staff will be given correct information all the time.

**3. To ensure due attention of student to each and every notice:**

Notice App ensures that everyone has kind attention to every notice and updates going on in college. There will be a buzz at each and every notice to drive the attention of student to check it once. In this way, students will be well informed about their college activities.

**4. To bring system into college life:**

It would be dire need of all colleges as its easy and shortcut method to inform all the students. In the absence of proper notification system will make it very difficult to inform students at right time.

**5. Searching a particular Notice:**

This application allows you search the notice very easily through title of notice. If anyone forgets about the notice details, he can search it out very easily.

**6. Free Service:**

It gives free service to notify all the students. There will be no cost of sending notification to all. Just have the good system implemented in college and that too free of cost.

**7. Prevent Crowd in College:**

As you can see, there is always a crowd at notice board. As notice board is one, and people to see notice are more. With this application there will be no more crowd. Everyone will be well informed even at their homes. So they are free to do their other work.

**8. Automatically Updated Dashboard:**

The dashboard of notice is automatically updated when a new message arrives. The user can himself refresh the dashboard to see any new notice.

**9. Anytime Anywhere Service:**

With this application, notices will be delivered anytime and at any place. There is no restriction of time to send a notice.

**10. Keeping Notices at one place:**

This application allows you to have notices in one place only. If there is an attachment with that, all will be placed in a separate folder dedicated to that application. So there will be no here and there of notices.

Requirement Analysis and System Specifications

**Feasibility Study**

Depending on the results of the initial investigation, the survey is expanded to a more detailed feasibility study. Feasibility study is a test of system proposal ac- cording to its work ability, impact on the organization, ability to meet user needs, and effective use of resources. The objective for this phase is not to solve the problem but to acquire a sense of scope. During the study, the problem definition is crystallized and aspects of the problem to be included in the system are deter- mined. Mobile Application Development Systems are capital investments because resources are being spent

currently in order to achieve benefits to be received over a period of time following completion. There should be a careful assessment of each project before it is begun in terms of economic justification, technical feasibility, operational impact and adherence to the master development plan. We started the project by listing the possible queries that the user might want to be satisfied. And on these lines we guided the

project further.

The three main points, kept in mind at the time of project, are:

\_ Possible (To build it with the given technology and resources)

\_ Affordable (given the time and cost constraints of the organization)

\_ Acceptable (for use by the eventual users of the system

The three major areas to be considered while determining the feasibility of a project are :

**1. Technical Feasibility**: The technical issue usually raised during the feasibility stage of the investigation includes the following :

\_ Does the necessary technology exist to do what is suggested?

\_ Do the proposed equipments have the technical capacity to hold the data required to use the new system?

\_ Will the proposed system provide adequate response to inquiries, regardless of the number or location of users?

\_ Can the system be upgraded if developed?

\_ Are there technical guarantees of accuracy, reliability, ease of access and data security?

Earlier no system existed to cater to the needs of Secure Infrastructure Implementation System.

The current system developed is technically feasible. It is a web based user interface. Thus it provides an easy access to the users. The databases purpose is to create, establish and maintain a work- flow among various entities in order to facilitate all concerned users in their various capacities or roles. Permission to the users would be granted based on the roles specified. Therefore, it provides the technical guarantee of accuracy, reliability and security. The software and hardware requirements for the development of this project are not many and are already available as free as

open source. The work for the project is done with the current equipment and existing software technology. Necessary bandwidth exists for providing a fast feed- back to the users irrespective of the number of users using the system.

**2. Operational Feasibility**: Under this category of service we conduct a study to analysis and determine whether your need can be fulfilled by using a proposed solution. The result of our operational feasibility Study will clearly outline that the solution proposed for your business is operationally workable and conveniently solves your problems under consideration after the proposal is implemented. We would precisely describe how the system will interact with the systems and persons around. Our feasibility report would provide results of interest to all stakeholders. It will do as per

the needs of the business requirements.

**3. Timeline Feasibility**: It is important to understand that a need must be fulfilled when it has to be. Some otherwise feasible and highly desirable projects can become non-feasible due to very restrictive timeline constraints. This fact makes it imperative that milestones are clearly linked to the timeline and projects are well conceived with safe unforeseen margins. We make sure that we strictly follow what has been stated above.

Software Requirement Specification Document

**Data Requirements**

Data requirement is meant to be the data that will be used in our application. Data required in this project is all notices, that need to be conveyed to the user. This application also require the username and passwords of persons in order to register them and sending notification about updates. So two main requirements are:

\_ Notice Details

\_ User Details

**Functional Requirements**

In order to make this application functional, we require the following:

**\_ Download mobile application**:

A user should be able to download the mobile an application through either an application store or similar service on the mobile phone. The application should be free to download.

**\_ User registration**:

Given that a user has downloaded the mobile application, then the user should be able to register through the mobile application. The user must provide user-name, password and e-mail address. The user can choose to provide a regularly used phone number.

**\_ User Login**:

Given that a user has registered, then the user should be able to log in to the mobile application. The log-in information will be stored on the phone and in the future the user should be logged in automatically.

**\_ Reset Password**:

Given that a user has registered, then the user should be able to retrieve his/her password by e-mail.

**\_ Dash-Board**:

Given that a user is logged in to the mobile application, then the first page that is shown should be the dashboard page. The user should be able to see all the college notices.

**\_ Search Notice**:

The user should be able to search for a notice by its title. For example, if a user types fee, all the notices having fee in their content get displayed.

**\_ Selecting a Notice**:

A user should be able to select any notice from list view. The click on particular notice will take him to notice details of that particular notice.

**\_ Navigating back to Notices List**:

The user should be able to navigate back to notices list from the notice details section. This is required to give a good user experience.

**\_ Deleting Notices**:

The user should have the option to delete the unnecessary notices from his phone, by ticking them one by one and then deleting them in one go. This way, user can save this phone memory from unrequired notices.

**\_ Posting Notices**:

The admin of this application should be able to post the notices. He should be able to add a picture within notices. That picture can be taken either from gallery or by using the camera of the mobile phone.

**\_ Notification Alert**:

All the registered users should be able to have a ping or notification on their mobile phone whenever a new notice is posted.

**Performance Requirements**

The requirements in this section provide a detailed specification of the user interaction with the software and measurements placed on the system performance.

**\_ Prominent search feature**:

The search feature should be prominent and easy to find for the user.

**\_ Usage of the Notice Information:**

The notice link should be prominent and it should be evident that it is a usable link. Selecting the notice link should only take one click.

**\_ Response Time**:

The response time should not be more than 5 seconds if user have a proper internet connection.

**\_ Fault Tolerance**:

The fault tolerance of the system should be very good. If the system loses the connection to the Internet or the system gets some strange input, the user should be informed.

**System Dependability**

Following are the requirements that an application require from the device/mobile on which it is installed.

**\_ Internet Permission**:

Application developed, require full internet permissions of mobile so that it can fetch notices from the server. At the same time, it should be able to receive buzz or notification tone whenever new notice is posted by admin.

**\_ External SD Card Writable Permissions:**

This application would be requiring read write access to SD card. It is required in order to download the notices attachment and save in SD card of mobile phone.

**\_ System Tools**:

This application requires various system tools to be used. For example, it requires Camera of mobile in order to click the image and post in into notice. It also requires system tool, that prevents it from sleeping.

**\_ Hardware Control**:

It uses vibrator of mobile phone whenever any notification arrives.

**\_ Account Info**:

It also fetches your google account information in order to get the user registered with Google Cloud Messaging.

**Maintainability Requirements**

Following are the maintainability requirement of e-Notice mobile application:

**\_ Application extendibility**:

The application should be easy to extend. The code should be written in a way that it favors implementation of new functions. It requires in order for future functions to be implemented easily to the application.

**\_ Application testability**:

Test environments should be built for the application to allow testing of the applications different functions.

**Security Requirements**

**\_ Communication Security**:

There should be security of the communication between the system and server. The messages should be encrypted for log-in communications, so others cannot get user-name and password from those messages. Every exchanged of information between client and server should be encrypted so that no one can track it.

**\_ Admin Login Account Security**:

If an admin tries to log in to the web portal with a non-existing account then the admin should not be logged in. The admin should be notified about log-in failure.

**\_ Admin Account Security**:

There should be security of admin accounts. An admin and IP address should not be able to log-in to the web portal for a certain time period after three times of failed log-in attempts.

**\_ User Create Account Security**:

The security of creating account for users of the system should be maintained. If a user wants to create an account and the desired user name is occupied, the user should be asked to choose a different user name.

**Look and Feel Requirements**

Regarding look and feel, our client is straight forword. They believe in simplicity. So these are their requirements:

**\_ Simple and Light**:

The user interface should be simple and lightly colored. It should give relaxing effect on looking at its GUI. No bright colors should be used while designing the UI of this application.

**\_ Easy to Use**

The application should be easy to use. If any user is doing something wrong, he/she should be informed correctly, what is going wrong behind the scene. There should be proper instructions for the user to use this application.

**\_ Soft Sound Notification**:

The sound for notification should be very soft. It should not disturb the pers with a loud note. Everything should be sober in this application.

**Validations**

Any application is useless without validation. There should be a way to validate the user input first before sending the user request to the server. Following are the validations implemented in proposed system:

**\_ User Password Validation**:

The application should check the user and password fields before sending any request to the server. It should check whether the fields are filled or not. if fields are not filled up, user should be

instructed to fill up the fields before moving further. in this way, there will be less traffic on the server.

**\_ Validations During Registration:**

There are a lot of validations that needs to be implemented in the application. They are as follow:

**1. First and Last Name of User:**

The first and last name of user should be not null. Also first letter of first and last name should be in uppercase.

**2. Username**:

The username can contain only alphabets, digits, underscore and hyphen. It should be at least 3 characters long and maximum of 15 characters.

**3. Password:**

The password must contains one digit from 0-9, one lowercase character, one uppercase character, one special symbols in the list ”#$%” and length of password must be at least 6 characters and maximum of 20.

**4. Email**:

The application must validate and email address entered by the user before sending request to the server.

**5. Mobile Number**:

The mobile number should be of only ten digits. No more, no less than that.

**\_ Validating During Posting Notices**:

The application should validate the notice posting fields before posting any notice. It should check whether title and description fields are filled or not. if not, it should tell the user to fill up the required fields while posting the notice.

**\_ Reset Password Validation**:

The application should check that user has entered the username or email in the given filed before pressing the reset password button.

**Expected Hurdles**

The main hurdles that can come in the notice are as follow:

**1. GCM Notification**:

It’s possible that there may be a problem with receiving GCM notifications. When to receive a broadcast signal and when to start the service. If service is not started at the proper time, there may be the case, user will not be able to receive any notification from the server.

**2. Device Database**:

Its very much difficut to see entries going inside the device database. You have to check through coding. You can’t access the applications database easily. So its bit hard to debug the database errors.

**3. Device SD Card**:

The application will be requiring access to the SD card of the user mobile. It may be possible that SD Card is full or missing SD Card. So the user will not be able to receive the respective attachment of notices.

**4. Google Play Services**:

Registering to the GCM Server requires to have Google Play services on device installed. Otherwise user will not be able to register to GCM server nor will be able to receive any messages.

SDLC Model Used

This section describes the project as per the various stages of the Software Development life cycle. The model of software development life cycle used in this project is the waterfall method. The Waterfall Method is comprised of a series of very definite phases, each one run intended to be started sequentially only after the last has been completed, with one or more tangible deliverables produced at the end of each

phase of the waterfall method of SDLC. Essentially, it starts with a heavy, documented, requirements planning phase that outlines all the requirements for the project, followed by sequential phases of design, coding, test-casing, optional documentation, verification (alpha-testing), validation (beta-testing), and finally deployment/release.

**1. Requirement Analysis**:

Existing system is time consuming and it makes difficult to convey huge amount of users about any event, class or seminar almost instantly. Also there is always a big crowd in front of noticeboard. So it was hectic to read any useful instruction and information. Thus all the problems of the existing system are summarized and proposing a new system that works as an online application. It is a value added solution to the problem. It resolves all the problems stated above. It will provide simple interface to the user to operate on and convey the intended users about events almost instantly, anytime and anywhere.

**2. Design:**

It includes translation of the requirements specified in the SRS into a logical structure that can be implemented in a programming language. The output of the design phase is a design document that acts as an input for all the subsequent SDLC phases. The design of this app is simple and user friendly containing six main activities, namely:

(a) Register

(b) Login

(c) Dashboard

(d) Details of Notices

(e) Admin Panel

(f) Reset Password

**3. Coding/Implementation**:

It includes translation of the requirements specified in the SRS into a logical structure that can be implemented in a programming language. The output of the design phase is a design document that acts as an input for all the subsequent SDLC phases. The project is implemented using the Android virtual devise (AVD). This emulator helped to implement the project in a real-like environment and sketch out the details of how it will work on a real hardware. Each activity is linked with another and interconnectivity is transparent and smooth.

**4. Testing**:

It includes detection of errors in the application. The testing process starts with a test plan that recognizes test-related activities, such as test case generation, testing criteria, and resource allocation for testing. The code is tested and mapped against the design document created in the design phase. The output of the testing phase is a test report containing errors that occurred while testing the application. Testing of the project has not been done on real hardware and also on the emulator or software environment. Testing has been done for each of the individual activities of the project.

**5. Maintenance**:

It includes implementation of changes that software might undergo over a period of time, or implementation of new requirements after the software is deployed at the customer location. The maintenance phase also includes handling the residual errors that may exist in the software even after the testing phase. The project maintenance is low cost and efficient as user will get this application at free of cost and also this application is shared over network, therefore maintenance is little bit difficult.

